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EXAMINER

SUBRAMANIAN, NARAYANSWAMY

ART UNIT PAPER NUMBER

3624

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/607,747

Applicant(s)

SHAO ET AL.

Examiner

Narayanswamy Subramanian

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-136 is/are pending in the application.
- 4a) Of the above claim(s) 52-136 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This is in response to communication dated August 8, 2003. Election of invention I pertaining to claims 1-51 by the Applicants is acknowledged by the Examiner. Claims 52-136 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. Applicant is respectfully advised to cancel the non-elected claims in response to this office action. Claims 1-51 have been examined. The rejections are stated below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 3, 8-13, 17, 25, 26, 28-35 and 37 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Aleia et al (US Patent 5,991,733).

With reference to claim 1, Aleia teaches a computer implemented method of predicting the likelihood of collecting on a delinquent debt on an account, the method comprising storing a predictive model of debt collection likelihood generated using historical data of delinquent debt

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accounts, the collection methods used in each account, and the success of the collection methods in each account; receiving data of a currently delinquent debt account; selecting a collection method; and generating a signal indicative of the likelihood of collecting on the currently delinquent debt by applying the data of the currently delinquent debt account and the selected collection method to the predictive model (See Aleia Column 7 line 26 – Column 8 line 9, Column 8 line 61 – Column 9 line 14, Column 10 lines 2-18 and claim 1).

With reference to claims 3 and 8 Aleia teaches a method of claim 1, wherein the delinquent debt was incurred on a medical service (See Aleia claim 2) or wherein the delinquent debt has been charged-off (See Aleia claim 1).

With reference to claims 9-13 and 17 Aleia teaches a method of claim 1, wherein the collection methods include a set of different letters that can be sent to delinquent debtors (See Aleia claim 4), different times at which a letter can be sent to delinquent debtors (See Aleia Column 17 lines 38-42), different phone call approaches (See Aleia claim 4), different debt lifecycle stages when phone calls may be made (See Aleia Column 17 lines 38-42), different debt lifecycle stages at which a letter can be sent to delinquent debtors (See Aleia Column 17 lines 38-42) and different collections specialists who may be assigned to work the account (See Aleia claim 1).

With reference to claims 25, 26, 28-35 and 37, Aleia teaches a method of claim 1, wherein the collection methods include legal actions (See Aleia claim 10), employment of a collection agency (See Aleia claim 4) and wherein the historical data includes information regarding an account before the account became delinquent (See Aleia claim 1), account purchase information (See Aleia claim 1, premium paid includes account purchase information), information regarding

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the Merchant Category Code of purchases on the account (See Aleia Figure 1I, Column 9 lines 34-36, line of business implies merchant category code), information regarding the amount of account purchases (See Aleia claim 1, premium implies information regarding the amount of account purchases), information regarding account cash transactions (inherent in the disclosure of Aleia regarding transactions), information regarding account payments made (See Aleia claim 1), events related to previous collection activities (See Aleia Column 7 lines 41-60) , collectors' notes related to previous collection activities (See Aleia Column 17 lines 29-31) and wherein the collectors' notes use a natural language format (See Aleia Column 17 lines 29-34).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3-7, 14-16, 18-24, 27, 36, 38-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aleia et al (US Patent 5,991,733).

With reference to claims 2 and 4-7, Aleia teaches a method of claim 1 as discussed above.

Aleia does not explicitly teach the steps wherein the delinquent debt was incurred on a credit card, on a utility bill, on an unpaid check, on mail-ordered goods, or on an electronic transaction via the Internet.

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Official notice is taken that the step wherein the delinquent debt was incurred on a credit card, on a utility bill, on an unpaid check, on mail-ordered goods, or on an electronic transaction via the Internet is old and well known in the art. By identifying these different ways of incurring a delinquent debt, creditors can consolidate their recovery effort and thereby speed up and minimize the cost of recovery.

It would have been obvious to one with ordinary skill in the art at the time of applicant's invention to include the step wherein the delinquent debt was incurred on a credit card, on a utility bill, on an unpaid check, on mail-ordered goods, or on an electronic transaction via the Internet to the teachings of Aleia. The combination of the disclosures taken as a whole suggests that by identifying the different ways of incurring a delinquent debt, creditors would have benefited from consolidating their recovery effort and thereby speed up and minimize the cost of recovery.

With reference to claims 14-16, 18-24 and 27, Aleia teaches a method of claim 1 as discussed above.

Aleia does not explicitly teach the steps wherein the collection methods include different days of the week, different monthly dates and different hours of the day during which phone calls may be made, electronic communications that may be made with the debtor, offering debt counseling, debt rescheduling, offering additional credit, changing delinquency financial penalties for an account, offering debt forgiveness, a search for a missing debtor or the sale of a debt.

Official notice is taken that the steps wherein the collection methods include different days of the week, different monthly dates and different hours of the day during which phone

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calls may be made, electronic communications that may be made with the debtor, offering debt counseling, debt rescheduling, offering additional credit, changing delinquency financial penalties for an account, offering debt forgiveness, a search for a missing debtor or the sale of a debt are old and well known in the art. These options help the creditor adopt a collection method that is best suited for a debtor in the recovery effort.

It would have been obvious to one with ordinary skill in the art at the time of applicant's invention to include the steps wherein the collection methods include different days of the week, different monthly dates and different hours of the day during which phone calls may be made, electronic communications that may be made with the debtor, offering debt counseling, debt rescheduling, offering additional credit, changing delinquency financial penalties for an account, offering debt forgiveness, a search for a missing debtor or the sale of a debt to the teachings of Aleia. The combination of the disclosures taken as a whole suggests creditors would have benefited from tailoring a collection method that is best suited for a debtor in the recovery effort.

With reference to claims 36 and 38-41, Aleia teaches a method of claim 35 as discussed above.

Aleia does not explicitly teach the steps wherein the collectors' notes use preformatted codes, further comprising transforming the collectors' notes into a mathematical representation that encodes contextual similarity of terms contained in the collector's notes, creating the mathematical representation using a vector model and creating the mathematical representation using context vector methodology by determining co-occurrence statistics of terms contained in the collector's notes.

Official notice is taken that the steps wherein the collectors' notes use preformatted codes, further comprising transforming the collectors' notes into a mathematical representation that encodes contextual similarity of terms contained in the collector's notes, creating the mathematical representation using a vector model and creating the mathematical representation using context vector methodology by determining co-occurrence statistics of terms contained in the collector's notes are old and well known in the art. The coding, representation and mathematical models speed up the analysis and make the analysis more objective.

It would have been obvious to one with ordinary skill in the art at the time of applicant's invention to include the steps wherein the collectors' notes use preformatted codes, further comprising transforming the collectors' notes into a mathematical representation that encodes contextual similarity of terms contained in the collector's notes, creating the mathematical representation using a vector model and creating the mathematical representation using context vector methodology by determining co-occurrence statistics of terms contained in the collector's notes to the teachings of Aleia. The combination of the disclosures taken as a whole suggests creditors would have benefited from speeding up the analysis and making them more objective by using coding, representation and mathematical models in the analysis.

With reference to claims 42-51, Aleia teaches a method of claim 1 as discussed above including the steps of segmenting a portfolio of accounts into a plurality of segments, and providing a different predictive model for each segment (See Aleia Column 9 lines 36-40), wherein each segment is based on the time period for which an account has been delinquent (See Aleia Column 9 lines 34-40), wherein each segment is based on the type of debt of an account (See Aleia Column 10 lines 7-9), wherein each segment is based on a statistical clustering of

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accounts having similar characteristics (See Aleia Column 15 lines 16-20) and wherein each segment is based on the amount owed on an account (See Aleia Column 10 lines 7-9). Similar cases imply segmentation and clustering and the type of contract implies the type of debt of an account.

Aleia does not explicitly teach the steps wherein each segment is based on the credit-worthiness of the holder of a delinquent debt account, the history of collection activities for an account, the collectors' notes for an account, a determination of whether a debt on an account has been charged-off or on the number of collection agencies that have attempted to collect on the debt account.

Official notice is taken that the steps wherein each segment is based on the credit-worthiness of the holder of a delinquent debt account, the history of collection activities for an account, the collectors' notes for an account, a determination of whether a debt on an account has been charged-off or on the number of collection agencies that have attempted to collect on the debt account are old and well known in the art. Such segmentation help the creditors analyze the data in different ways and improve the accuracy and reliability of the predictive models.

It would have been obvious to one with ordinary skill in the art at the time of applicant's invention to include the steps wherein each segment is based on the credit-worthiness of the holder of a delinquent debt account, the history of collection activities for an account, the collectors' notes for an account, a determination of whether a debt on an account has been charged-off or on the number of collection agencies that have attempted to collect on the debt account to the teachings of Aleia. The combination of the disclosures taken as a whole suggests

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creditors would have benefited from the improved accuracy and reliability of the predictive models as a result of such segmentation.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Narayanswamy Subramanian whose telephone number is (703) 305-4878. The examiner can normally be reached Monday-Thursday from 8:30 AM to 7:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached at (703) 308-1065. The fax number for Formal or Official faxes and Draft or Informal faxes to Technology Center 3600 or this Art Unit is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-1113.

N. Subramanian
August 16, 2003

Richard Weisberger
Primary Examiner